

Claims

1. A circuit board support rack comprising:  
-a frame;  
-a board engagement platform fixed with respect to the frame;  
5 -a board retention member spaced from the engagement platform by a dimension;  
-a first adjustment mechanism coacting with the frame and the retention member and permitting selection of the dimension; and  
-a second adjustment mechanism on the retention member, such second adjustment mechanism being mounted for movement toward and away from the engagement platform while holding the dimension substantially constant.  
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2. The rack of claim 1 wherein:  
-the frame includes plural openings for attaching the rack to a vibratory table;  
15 and  
-the first adjustment mechanism includes apertures spaced from one another, thereby permitting the dimension to be selected in predetermined increments.  
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3. The rack of claim 2 wherein:  
-the dimension is a linear dimension measured along a first axis; and  
-the apertures extend along a second axis substantially parallel to the first axis.  
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4. The rack of claim 3 wherein:  
-the board engagement platform includes a linear engagement groove extending along a third axis; and  
-the third axis is substantially perpendicular to the first axis.

5. In combination, a printed circuit board having first and second edges and a rack supporting the board, the rack comprising:

- a frame;
- a platform mounted with respect to the frame and engaging the first edge;
- 5 -a board retention member spaced from the engagement platform by a dimension;
- a first adjustment mechanism coacting with the frame and the retention member and maintaining the dimension; and
- a second adjustment mechanism on the retention member and engaging the
- 10 second edge;

and wherein:

- the platform and the second adjustment mechanism exert compressive force on the board.

15 6. The combination of claim 5 wherein the second adjustment mechanism includes:

- a clamping screw threaded to the retention member; and
- a locating pin mounted to the clamping screw for relative movement with respect to such screw, the pin including a notch engaging the second edge of
- 20 the printed circuit board.

7. The combination of claim 5 wherein:

- the retention member includes a plurality of second adjustment mechanisms,
- each second adjustment mechanism has a respective clamping screw;
- 25 -each clamping screw is threaded to the retention member; and
- each clamping screw has a respective locating pin mounted thereto.

8. The combination of claim 7 wherein:

- the clamping screws are first, second and third clamping screws;
- the locating pins are first, second and third locating pins mounted on the first, second and third clamping screws, respectively; and
- each locating pin is rotationally movable with respect to the clamping screw on which it is mounted.

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9. The combination of claim 5 wherein:

- the board has a substantially planar surface; and
- the compressive force is exerted substantially parallel to the planar surface.

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10. The combination of claim 5 wherein:

- the board has a substantially planar surface; and
- the compressive force is exerted substantially coincident with the planar surface.

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11. In combination, a plurality of printed circuit boards, a rack supporting the boards and a vibratory table supporting the rack and the boards, and wherein:

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- the rack includes a platform and a board retention member exerting compressive force on the boards;
- the table includes a mounting surface having a plurality of holes formed therein;
- the rack includes a frame having plural openings formed therein; and
- fasteners extend through the openings into the holes, thereby securing the rack and the boards to the table.

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12. The combination of claim 11 wherein:

- the frame includes a pair of vertical, longitudinally-spaced end panels having a pair of laterally-spaced rails therebetween;
- the platform and the board retention member are supported between the end panels in spaced relationship to one another and the printed circuit boards are clamped therebetween; and
- the openings are in the rails.

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13. The combination of claim 12 wherein:

- the board retention member has first and second pluralities of clamping screws threaded thereto; and
- each clamping screw of the first plurality of clamping screws has a relatively-movable locating pin coupled thereto.

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14. The combination of claim 12 wherein:

- the board retention member has first and second pluralities of clamping screws threaded thereto;
- each clamping screw of the first plurality and of the second plurality of clamping screws has a locating pin coupled thereto;

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15. The combination of claim 12 wherein:

- the boards comprise first and second boards;
- the first board is clamped between the platform and the first plurality of clamping screws; and
- the second board is clamped between the platform and the second plurality of clamping screws.

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16. The combination of claim 12 wherein:

- the end panels are first and second end panels having, respectively, first and second rows of vertically-spaced-apart apertures;
- first and second screws extend, respectively, through an aperture of the first and second rows and engage the board retention member.

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16. The combination of claim 15 wherein:

- the platform and the board retention member are spaced apart by a first dimension;
- the platform and the locating pins of the first plurality of clamping screws are spaced apart by a second dimension;
- the first and second rows of apertures and the first and second screws comprise a first adjustment mechanism whereby the first dimension may be selected in predetermined increments; and
- the first plurality of clamping screws comprises a second adjustment mechanism whereby the second dimension may be selected in a continuum.

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